



NATIONAL WEATHER SERVICE
SILVER SPRING, MARYLAND 20910-3283

Operations Manual
Letter 11-01

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Subject: Update to Winter Weather Warning Policy

References: WSOM Chapter C-42, Winter Weather Warnings, Transmittal Issuance 92-5, dated September 14, 1992.

This OML modifies the following sections of WSOM Chapter C-42: Section 4.8 and Exhibit C-42-1, Wind Chill; Section 6.2, Winter Storm Watches; Section 6.3.1, Winter Storm Warnings; and Section 6.3.2, Winter Weather Advisories. This modification expands winter weather policy to help meet strategic plan goals and includes the new wind chill chart.

4.8 Wind Chill. The Wind Chill Temperature (WCT) is the air temperature at which the heat transfer rate and skin temperature would be the same in the absence of wind. The WCT represents the temperature the body feels when it is exposed to wind and cold. Prolonged exposure can lead to frostbite and hypothermia. Based on the latest human study research provided by the Office of the Federal Coordinator for Meteorology, the wind chill chart (Exhibit C-42-1) provides WCTs and objective frostbite time values. The threshold for dangerous WCT starts around -20°F, where frostbite can occur on exposed flesh within 30 minutes. As the WCT drops, the frostbite time decreases, especially with higher wind speeds. Frostbite time references shall be used in the body of text for Wind Chill Warnings and should be used, when applicable, for Wind Chill Advisories.

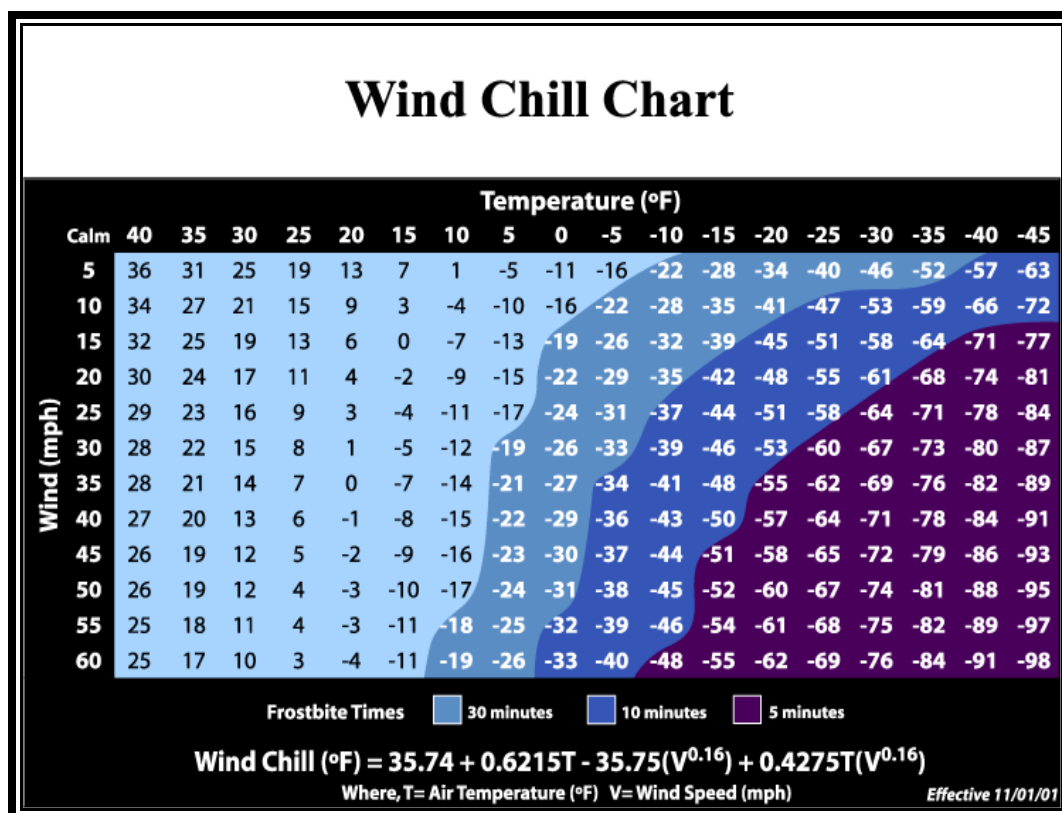


Exhibit C-42-1: Wind Chill Chart and formula with frostbite times shaded.

6.2 Winter Storm Watches. Winter storm watches shall be issued when conditions are favorable for hazardous winter weather conditions, as defined in section 4, to develop over part or all of the forecast area, but the occurrence is still uncertain. Winter storm watches should be issued for the second, third, or occasionally fourth forecast periods, when the forecaster's confidence is 30 percent or greater of a hazardous winter weather event meeting or exceeding local warning criteria. Watches shall be updated whenever there is a change in the timing, areal extent, or expected conditions.

Watches shall be issued via the WSW product category and subsequently headlined in all appropriate state, zone, and local forecast products. The (Z) form of the UGC shall be used as described in WSOM Chapter C-63. The MND shall be "URGENT - WINTER WEATHER MESSAGE."

Due to the uncertainty of predicting precipitation type beyond 24 hours, watches should be headlined with a generic "WINTER STORM WATCH" phrase. Do not provide specific quantitative information on snow accumulation for watches. Technical terms and descriptions should also be avoided. Geographical descriptions should be kept simple and limited to well known regions and larger cities or towns.

The watch provides additional information about the winter storm which is not found in the state, zone, or local products and includes generalized quantitative snowfall amounts (see fourth bullet below). For example, winter storm watches shall include the following information. NOTE: Information may be reordered to provide the maximum impact.

- o Affected area.
- o Winter weather element(s) prompting the watch.
- o Timing and duration of event.
- o Generalized quantitative snowfall amounts or ice accumulations based upon local warning criteria (e.g., greater than 6 inches possible, the potential exists for more than one quarter inch of ice accumulation).
- o Explanation of a watch and the uncertainty involved.
- o Precautions, call to action statements, potential impact.

Whenever winter storm watches are in effect, WSW should be updated at least with each scheduled forecast package. These statements should include the current watch information, updated weather details, and call to action statements. Use the (Z) form of the UGC and the MND header "URGENT - WINTER WEATHER MESSAGE."

Winter storm watches either evolve into winter storm warnings or advisories, or they are canceled.

6.3.1 Winter Storm Warnings. Winter storm warnings shall be issued when hazardous winter weather, as defined in section 4, is imminent or occurring over part or all of the forecast area. Winter storm warnings should be issued for the first, second, or occasionally third forecast periods, when the forecaster is confident of the imminence or occurrence of a hazardous winter weather event meeting or exceeding local warning criteria. Update appropriate forecasts by highlighting the warning in the headline/lead sentence. Winter storm warnings shall be updated whenever there is a change to the timing, areal extent, or expected condition.

Issue warnings via the WSW product category. Use the (Z) form of the UGC as described in WSOM Chapter C-63. The MND header shall be "URGENT - WINTER WEATHER MESSAGE."

The warning provides detailed information about the winter storm which is not found in the state, zone, or local forecast products and shall include the following. NOTE: The order of information may vary in order to produce the greatest impact.

- o Affected area.
- o Quantitative snowfall amounts or ice accumulation (e.g., 3 to 6 inches, 8 to 12 inches, one quarter to one half inch of ice accumulation).
- o Timing of the event (beginning, ending, time of heaviest precipitation or worst conditions, duration, etc.).
- o Winter weather element prompting the warning.
- o Definition of a warning (particularly if event has not yet begun).
- o Safety rules, call to action statements.

Whenever winter storm warnings are in effect, WSWs should be updated once every six to eight hours until the event ends or is cancelled. Warnings should be headlined with the specific event producing the hazard, such as "HEAVY SNOW WARNING", "ICE STORM WARNING, or "LAKE EFFECT SNOW WARNING" For situations having more than one event or when the event is hard to determine, use the generic headline "WINTER STORM WARNING". The headline should also include the time period of the warning.

6.3.2 Winter Weather Advisories. Winter weather advisories shall be issued for winter weather situations that are imminent or occurring and cause significant inconveniences but do not meet warning criteria and, if caution is not exercised, could lead to life-threatening situations. As with warnings, advisories should be issued for the first, second, or occasionally third forecast periods, when a forecaster is confident of the imminence or occurrence of a winter weather event meeting or exceeding local advisory criteria. Advisories shall be reissued whenever there is a change in timing, areal extent, or expected condition.

Winter weather advisories should be issued using the product category WSW and highlighted in all appropriate zone, local, and state forecast products. Use the (Z) form of the UGC as described in WSOM Chapter C-63. The MND header shall be "URGENT - WINTER WEATHER MESSAGE."

Advisories provide additional information about the weather event which is not found in the state, zone, or local forecast products. Advisories shall include the following information. NOTE: The order of information may vary in order to produce the greatest impact.

- o Affected area.
- o Quantitative snowfall amounts or ice accumulation (e.g., 2 to 4 inches, 3 to 6 inches, less than one quarter of an inch of ice accumulation).
- o Timing of the event (beginning, ending, time of heaviest precipitation or worst conditions, duration).
- o Winter weather element(s) prompting the advisory.
- o Precautions, call to action statements, potential impact.

Whenever advisories are in effect, WSWs should be updated once every six to eight hours until the event ends or is cancelled. Advisories should be headlined with the specific event producing the problem, such as "SNOW ADVISORY" or "FREEZING RAIN ADVISORY," For situations having more than one event or when the event is hard to determine, use the generic headline "WINTER WEATHER ADVISORY". The headline should also include the time period of the advisory.

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